

NEW TAXA OF *ENTOLOMA* (SECT. *CALLIDERMI*) AND *POUZAROMYCES* (AGARICALES)

by E. HORAK*

SUMMARY. - Six new taxa of entolomatoid agarics are described and illustrated: *Entoloma peculiare* (Brazil), *E. henrici* (Switzerland), *E. pruinatum*, *Pouzaromyces aureocrinitus*, *P. sepiaceobasalis* and *P. erinaceus* (Argentine).

RÉSUMÉ. - Description et illustration de six nouvelles espèces d'Entolomes: *Entoloma peculiare* du Brésil, *E. henrici* de Suisse, *E. pruinatum*, *Pouzaromyces aureocrinitus*, *P. sepiaceobasalis* et *P. erinaceus* d'Argentine.

1. - *ENTOLOMA* (sect. *Callidermi* Romagnesi)

To accommodate entolomatoid agarics having a cellular pileipellis ROMAGNESI introduced in *Entoloma* (= *Rhodophyllus*) the section *Callidermi* whose few members exclusively occurred in tropical-subtropical habitats in Madagascar and Central Africa (ROMAGNESI, 1941, 1957; ROMAGNESI & GILLES, 1979). Subsequently related taxa were discovered in South America (DENNIS, 1970; HORAK, 1977), North America (LARGENT, 1977) and in several South-East Asian countries (HORAK, 1980).

In this contribution additional callidermic species are presented from tropical South America apparently rich in *Entoloma* having this peculiar structure of the pileipellis.

The occurrence of *E. henrici* (named after Henri ROMAGNESI in respect of his unrivalled contributions to the systematics of pink-spored agarics), a new taxon from Switzerland, is remarkable for it represents the first record of sect. *Callidermi* in temperate Europe. Thus *Entoloma* belonging to this «exotic» section can be found also in localities far beyond the equatorial belt.

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ENTOLOMA PECULIARE Horak & Corner, sp. nov. (Fig. 1. A-E)

Pileus -12 mm *latus*, *e* *convexo aplanatus*, *fuscus*, *pruinosis*. *Lamellae emarginatae*, *subroseae*, *acie brunnea instructae*. *Stipes* -20/-1 mm, *cylindricus*, *pallide griseo-azureus*, *glaber*. *Sporae* 9-10 x 6-7 μ m, *angulatae*. *Cheilocystidia clavata*, *pigmento brunneo instructa*. *Ad lignum putridum in silvis tropicalibus. Brasilia, 4.XII.1948, CORNER, ZT 79:209 (Typus).*

Pileus -12 mm diam., hemispherical becoming convex, plane (but not umbilicate) in aged specimens; fuscous to dark brown especially at disc, paler towards striate margin, innately pruinose all over surface, dry. *Lamellae emarginate* (to adnate). L 6-8. -3; narrow, up to 2 mm wide; pallid drab white turning pink, edge fimbriate, brown.

Stipe -20/-1 mm, cylindrical, slender; pale grey-blue; smooth, solid, single. Odour and taste not distinctive.

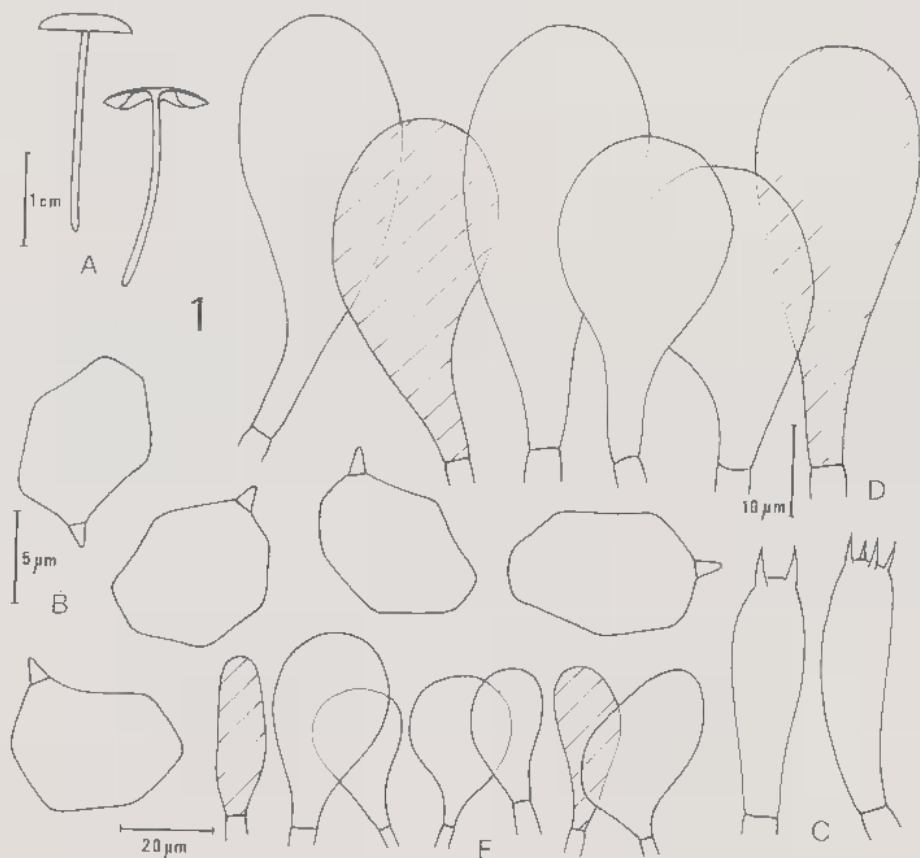


Fig. 1. - *Entoloma peculiare* Horak & Corner (type) : A. carpophores. B. spores. C. basidia. D. cheilocystidia. E. pileipellis.

Context thin, pale blue in stipe.

Spores 9-10 x 6-7 μ m, angular (6-7 angles in profile).

Basidia 20-25 x 7-8 μ m, 4-spored, rarely also with 2 sterigmata.

Cheilocystidia 30-50 x 15-25 μ m, clavate to vesiculose, membrane thin-walled, with brown plasmatic pigment.

Pleuro- and caulocystidia none.

Pileipellis a celluloderm composed of more or less clavate cells (20-50 x 10-22 μ m), membrane thin-walled, with brown plasmatic pigment.

Clamp connections absent.

Habitat : On rotten wood in tropical forest.

Distribution : Brazil.

Material : Brazil : Rio de Janeiro, Corcovado, 500 m, 4.XII.1948, leg. CORNER (ZT 79/209; holotype).

ENTOLOMA HENRICI Horak & Aeberhardt, sp. nov. (Fig. 2, A-E)

Pileus -55 mm latus, e convexo late umbonatus, fuliginosus, velutinus. *Lamellae emarginatae vel adnatae, alboroseae. Stipes* -45/-8 mm, cylindricus vel basin versus attenuatus, albidus. *Sporae* 8,5-11 x 7,5-9 mm, angulatae. *Cystidia nulla. Cuticula ex cellulis clavatis cellulodermium formantibus. Fibulae desunt. Ad terram in locis graminosis. Helvetia, 29.IX.1973, AEBERHARDT, ZT 73/338 (Typus).*

Pileus -55 mm diam., hemispherical or convex becoming broadly campanulate or umbonate-expanded; pale fuliginous: velutinous to pruinose all over surface, often wrinkled from disc to margin, slightly hygrophanous, dry.

Lamellae adnate to subfree, crowded, ventricose, up to 10 mm wide; at first whitish turning to pink; edges even, concolorous.

Stipe -45/-8 mm, cylindrical, often tapering towards base, curved; whitish; dry, longitudinally fibrillose, pruinose at apex, hollow with age, single.

Odour and taste not distinctive.

Context pale brown in pileus, whitish in pileus.

Spores 8,5-11 x 7,5-9 μ m, angular (5-6 angles in profile view).

Basidia 30-45 x 8-10 μ m, 2 spored.

Cheilo- and pleurocystidia absent.

Caulocystidia as cylindrical or subcapitate terminal cells of hyphae on surface of stipe.

Pileipellis composed of clavate cells (10-30 x 5-12 μ m), forming a celluloderm, in subcuticular layers with conspicuous oleiferous hyphae among wide oval to elliptic cells, brown plasmatic and vacuolar pigment present.

Clamp connections absent.

Habitat : On soil among grass in pastures.

Distribution : Switzerland.

Material : Switzerland : Kt. Graubünden, Fläsch-Maienfeld, 580 m, 29.IX.-

1973, leg. AEBERHARDT (ZT 73/338; holotype).

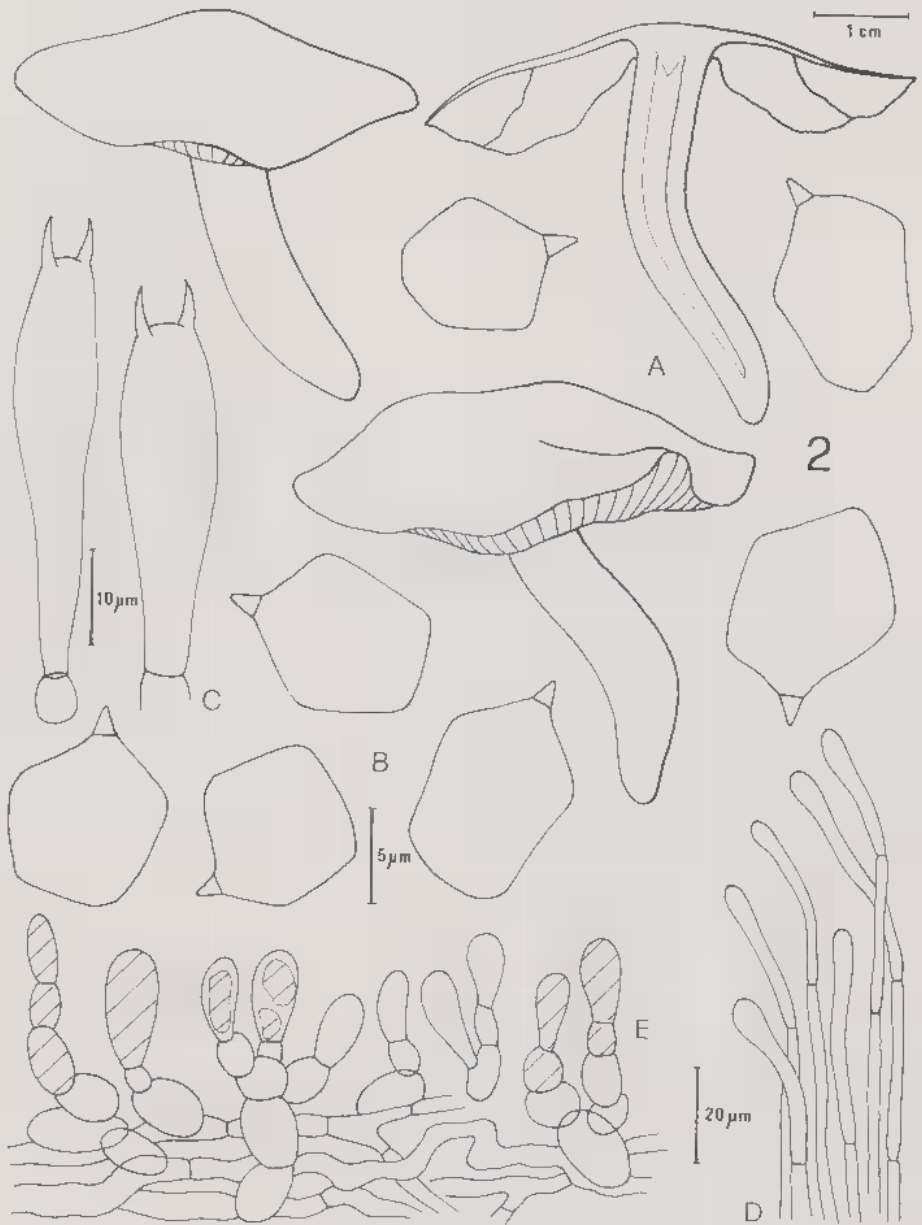


Fig. 2. — *Entoloma henrici* Horak & Aeberhardt (type) : A. carpophores. B. spores. C. basidia. D. caulocystidia. E. pileipellis.

ENTOLOMA PRUINATUM Horak, sp. nov. (Fig. 3, A-E)

Pileus -10 mm latus, planus vel subumbonatus, fuliginosus, minute squamulosus. *Lamellae* late adnatae vel decurrentes, pallide brumneae. *Stipes* -25/0,5-1 mm, cylindricus, pileo concolor, glaber. *Sporae* 7-8 x 5,5-7,5µm, angulatae. *Cheilocystidia* clavata, subcolorata. *Ad terram in silvis tropicalibus. Argentina, 6.III.1980, HORAK, ZT 242 (Typus).*

Pileus -10 mm diam., plane to subumbilicate at centre, margin upturned in mature specimens; fuliginous; disc pruinose or minutely fibrillose, smooth towards margin, distinctly striate-sulcate, slightly hygrophanous, dry.

Lamellae broadly attached to decurrent, triangular, L 6-8, -1; brownish with pink tinge; edges even, concolorous.

Stipe -25/0.5-1 mm, cylindrical, very slender, brittle; paler or concolorous with pileus; smooth to fibrillose, basal tomentum absent; solid, dry, single.

Odour and taste absent.

Context thin, fragile, pale brown.

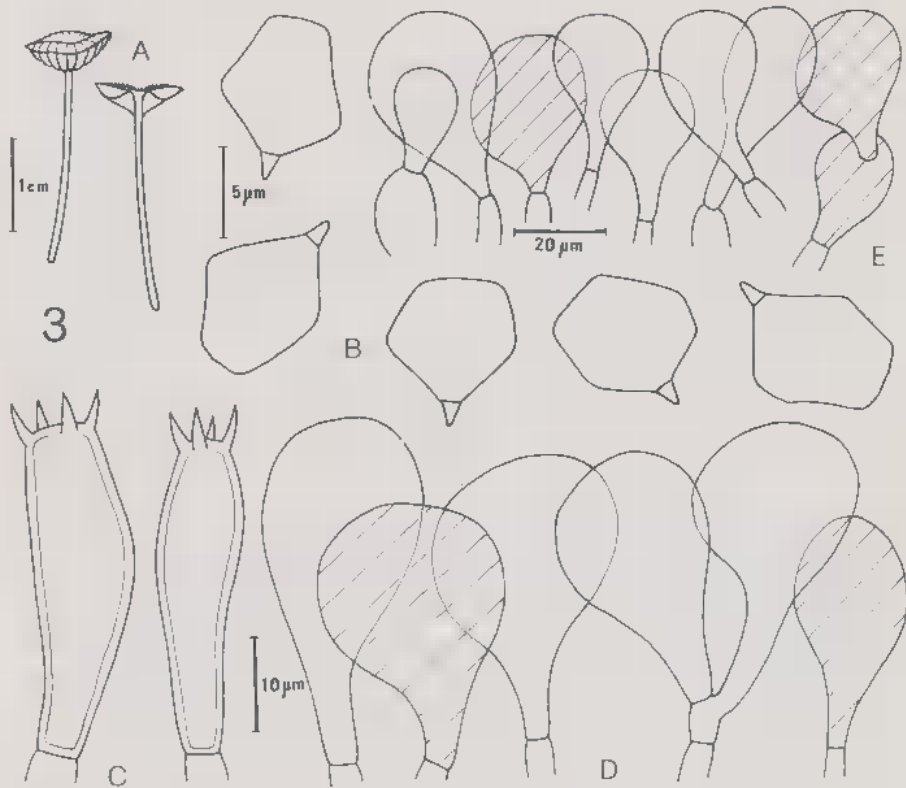


Fig. 3. - *Entoloma pruinatum* Horak (type) : A. carpophores. B. spores. C. sclerobasidia. D. cheilocystidia. E. pileipellis.

Spores 7-8 x 5.5-7.5 μ m, angular (mostly 5 angles, rarely also quadrate).

Basidia 25-35 x 10-12 μ m, 4 spored, membrane thick-walled (sclerobasidia).

Cheilocystidia 25-40 x 12-20 μ m, clavate to vesiculose, membrane hyaline, often with pale brown plasmatic pigment.

Pleuro- and caulocystidia absent.

Pileipellis a celluloderm composed of clavate cells (20-50 x 12-30 μ m), with brown plasmatic pigment.

Clamp connections absent.

Habitat : On soil and organic litter in tropical forest.

Distribution : Northeastern Argentine.

Material : Argentine : prov. Misiones, Iguazu, 6.III.1980, leg. HORAK (ZT 242; holotype).

2. - *POUZAROMYCES* Pilát (1953)

Within *Entoloma* s. l. *Pouzaromyces* represents - to my opinion - a well defined and independent genus and therefore I am not following the taxonomic concepts proposed by MAZZER (1976), ROMAGNESI & GILLES (1979) or NOORDELOOS (1979).

Pouzaromyces is (probably) worldwide in its distribution and occurs not only in the temperate but also in subtropical-tropical regions: New Zealand (HORAK, 1973), South-East Asia (HORAK, 1980), Africa and Madagascar (ROMAGNESI, 1941, 1957; ROMAGNESI & GILLES, 1979), South America (HORAK, 1977), North America (HESLER, 1967; MAZZER, 1976), Europe (NOORDELOOS, 1979).

In general specimens of *Pouzaromyces* are recognized in the field by their slender habit, and grey to brown carpophores covered by conspicuous fibrils or bristles. *P. splendens* (MAZZER, 1976) with yellow pileus represents the only remarkable outsider among the described taxa.

The three Argentinean taxa presented below, however, have macroscopical characters not yet recorded for *Pouzaromyces*. The pileus both of *P. aureocrinitus* and *P. erinaceus* is red to red-brown but yellow-orange-brown in *P. sepiaceobasalis*. Conversely the colour of the stipe ranges from grey to brown in the first two mentioned taxa. However, in *P. sepiaceobasalis* the upper half of the stipe is golden brown to become blue-black or black towards the base. In addition the membranes of the stipeal bristles in *P. aureocrinitus* are unique in structure and colour.

Regardless these striking features these three taxa obviously belong to *Pouzaromyces* s. str.

POUZAROMYCES AUREOCRINITUS Horak, sp. nov. (Fig. 4, A-E)

Pileus -10 mm *latus*, e conico campanulatus, rubrobrunneus, minute squamulosocrinitus. *Lamellae* adnatae vel subliberae, subroseae. *Stipes* -40/-1 mm, cylindricus, griseobrunneus, fibrillis aureis substrigosis dense instructus. *Sporae* 12-16 x 6,5-8µm, angulatae. *Sub Abio* in silvis subtropicalibus. Argentina, 10.III.1962, HORAK, ZT 62/112 (*Typus*).

Pileus -10 mm diam., conical at first, later becoming campanulate or expanded with distinct papilla; red to red-brown, colour fading with age; densely

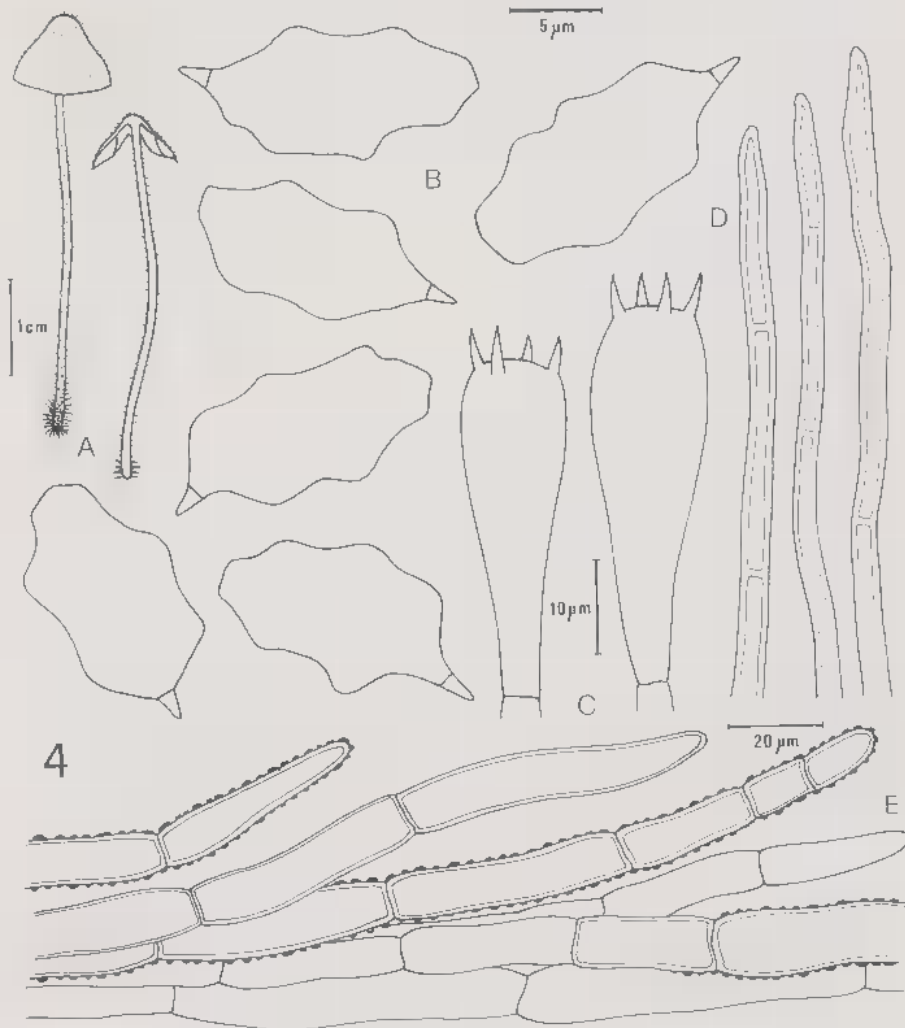


Fig. 4. — *Pouzaromyces aureocrinitus* Horak (type) : A. carpophores. B. spores. C. basidia. D. caulocystidia. E. pileipellis.

covered with concolorous minute bristles or squamules, dry, margin not striate, veil remnants none.

Lamellae adnate to almost free. L 5-8, -3; narrow, subventricose in aged specimens, edges even, concolorous.

Stipe -40/-1 mm, cylindrical, slender; grey to pale brown; velvety or sub-strigose of yellow to gold brown minute bristles and fibrils, especially towards the base; solid, dry, single.

Odour and taste not distinctive.

Context thin, pale red-brown in pileus, grey in stipe.

Spores 12-16 x 6.5-8 μ m, distinctly angular.

Basidia 35-42 x 12-15 μ m, 4 spored.

Cheilo- and **pleurocystidia** absent. **Caulocystidia** conspicuous, 5-8 μ m diam., cylindrical, gradually tapering towards rounded apical tips, membrane thick-walled (-1.5 μ m diam.), yellow to yellow-brown (KOH), septate.

Pileipellis composed of large hyphae (-25 μ m diam.), terminal cells conical to fusoid, membrane less than 1 μ m diam., usually thin-walled, encrusted with brown pigment.

Clamp connections absent.

Habitat : On soil and decaying organic litter of *Alnus jonullensis* var. *spachii* Regel (Betulaceae), in montane-subtropical forest.

Distribution : Northern Argentine.

Material : Argentine : prov. Jujuy. Las Lagunas, 2100 m, 10.III.1962, leg. HORAK (ZT 62/112; holotype).

POUZAROMYCES SEPIACEOBASALIS Horak, sp. nov. (Fig. 5, A-E; 6, D)

Pileus -10 mm *latus*, *e* *convexo subumbilicatus*, *aureobrunneus*, *velutinus vel setosus*, *striatus*. *Lamellae emarginatae*, *griseo-brunneae*, *fimbriatae*. *Stipes* -60/-1 mm, *cylindricus*, *rigidus*; *aureobrunneus*, *basim versus azureo-ater*, *lanuginosus vel strigosus*. *Sporae* 15-19 x 7.5-9 μ m, *angulatae*. *Cheilocystidia clavata*. *Fibulae desunt*. *Argentina*, 6.III.1960, HORAK, ZT 244 (*Typus*).

Pileus -10 mm diam., hemispherical or convex at first, later becoming plane and/or depressed at centre; golden brown with faint orange tinge; velutinous to hairy, striate-sulcate towards margin, membranaceous, dry.

Lamellae adnate to emarginate, ventricose, L 6-8, -1(3); pale grey-brown, edges paler or concolorous, fimbriate.

Stipe -60/-1 mm, cylindrical, very slender, stiff; upper half golden brown, yellow-brown, lower half gradually blue-black to black; woolly-hairy over whole length, brown to black bristles at base well developed, dry, solid, single or cespitose. **Odour** and taste not distinctive.

Context yellow-brown in pileus, blue to black in base of stipe, tough.

Spores 15-19 x 7.5-9 μ m, angular.

Basidia 30-40 x 10-15 μ m, 4-spored.

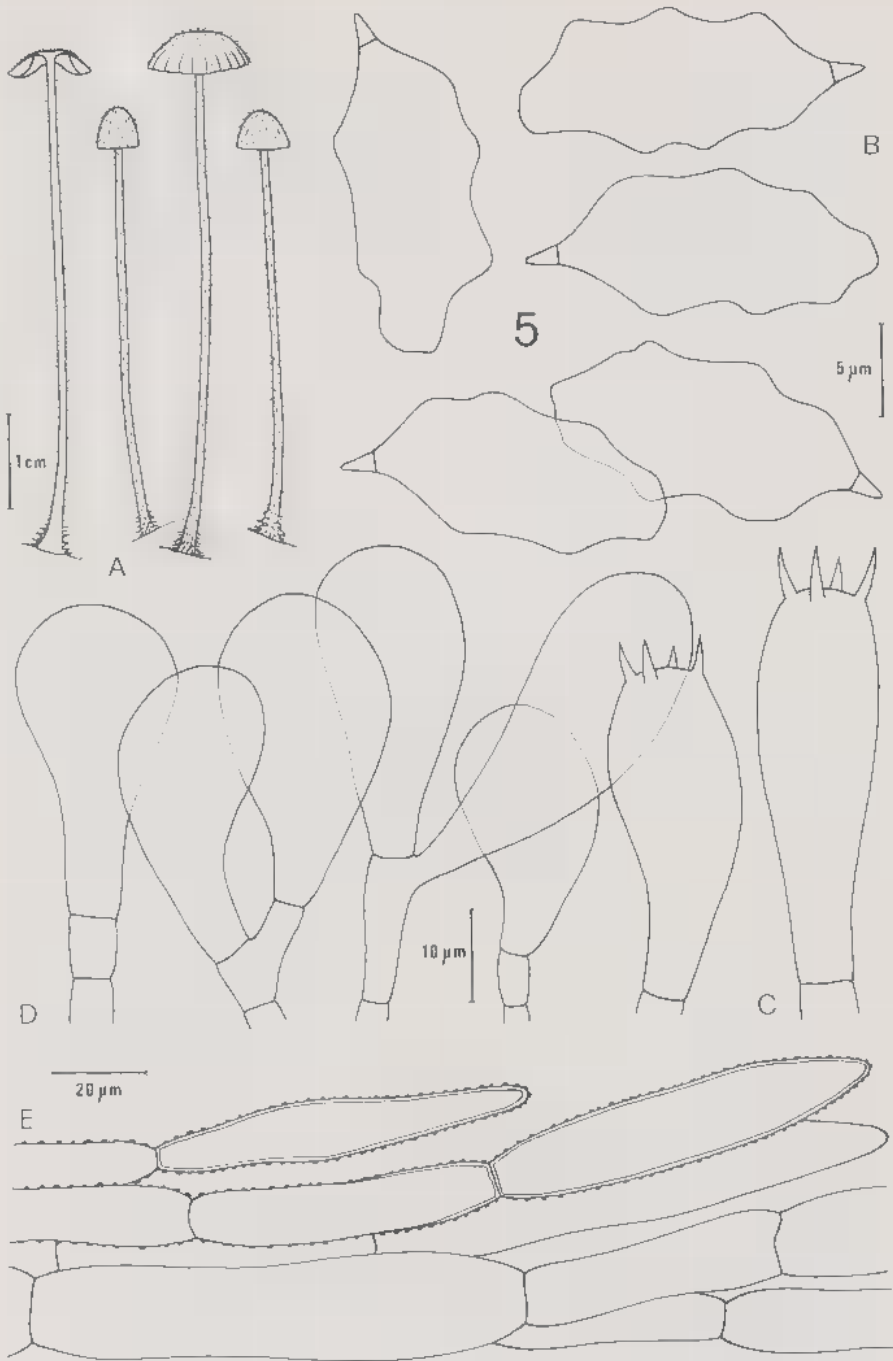


Fig. 5. — *Pouzaromyces sepiaceobasalis* Horak (type) : A. carpophores. B. spores. C. basidia. D. cheilocystidia. E. pileipellis. For caulocystidia compare fig. 6, D.

Cheilocystidia 20-45 x 12-25 μ m, clavate to vesiculose, membrane hyaline, thin-walled, pigment none.

Pleurocystidia absent. **Caulocystidia** 4-8 μ m diam., terminal cells cylindrical, conical or fusoid, membrane slightly thickened and encrusted with pale brown pigment.

Pileipellis a trichoderm composed of large hyphae (8-12 μ m diam.), membrane thick-walled, strongly encrusted with brown pigment.

Clamp connections absent.

Habitat : On soil among decaying organic litter, in tropical forest.

Distribution : Northeastern Argentine.

Material : Argentine : prov. Misiones. Iguazu, 6.III.1980, leg. HORAK (ZT 244: holotype).

POUZAROMYCES ERINACEUS Horak, sp. nov. (Fig. 6, A-E)

Pileus -10 mm *latus*, *hemisphaericus vel convexus*, *rubrobrunneus vel lateritius*, *substrigoso velutinus*. *Lamellae subliberae*, *pallide brunneae*. *Stipes* -35/-1.5 mm, *cylindricus*, *griseus*, *crinitus vel strigosus*. *Sporae* 15-19 x 9-11 μ m, *angulatae*. *Ad terram in silvis subtropicalibus*. *Argentina*, 1.III.1962, HORAK. ZT 62/189 (*Typus*).

Pileus -10 mm diam., hemispherical to convex; blood red, red-brown or brick red-brown, when fresh with distinct golden tint; densely covered with minute squamules or bristles, velvety in aged specimens, margin distinctly ciliate, dry, not hygrophanous.

Lamellae adnate to almost free, L 6-8, -3; ventricose, up to 4 mm wide, edges subserrate, concolorous with pale brown faces.

Stipe -35/-1.5 mm, cylindrical, rarely attenuated towards apex, slender; grey with pale yellow tinge; hairy to strigose over whole length, bristles up to 4 mm long near base; hollow, brittle, single.

Odour and taste not distinctive.

Context thin, pale red-brown in pileus, grey in stipe but slowly changing to black.

Spores 15-19 x 9-11 μ m, angular.

Basidia 50-60 x 12-16 μ m, 4-spored.

Cheilo- and pleurocystidia absent. **Caulocystidia** up to 10 μ m diam., terminal cells conical, fusoid or cylindrical, thin-walled or membrane slightly thickened, minutely encrusted with brownish pigment.

Pileipellis a trichoderm composed of large hyphae (- 15 μ m diam.), terminal cells as in caulocystidia, encrusted with brown pigment which dissolves pale red-brown in KOH.

Clamp connections absent.

Habitat : On soil among litter in angiospermic forest (selva tucumana).

Distribution : Northern Argentine.

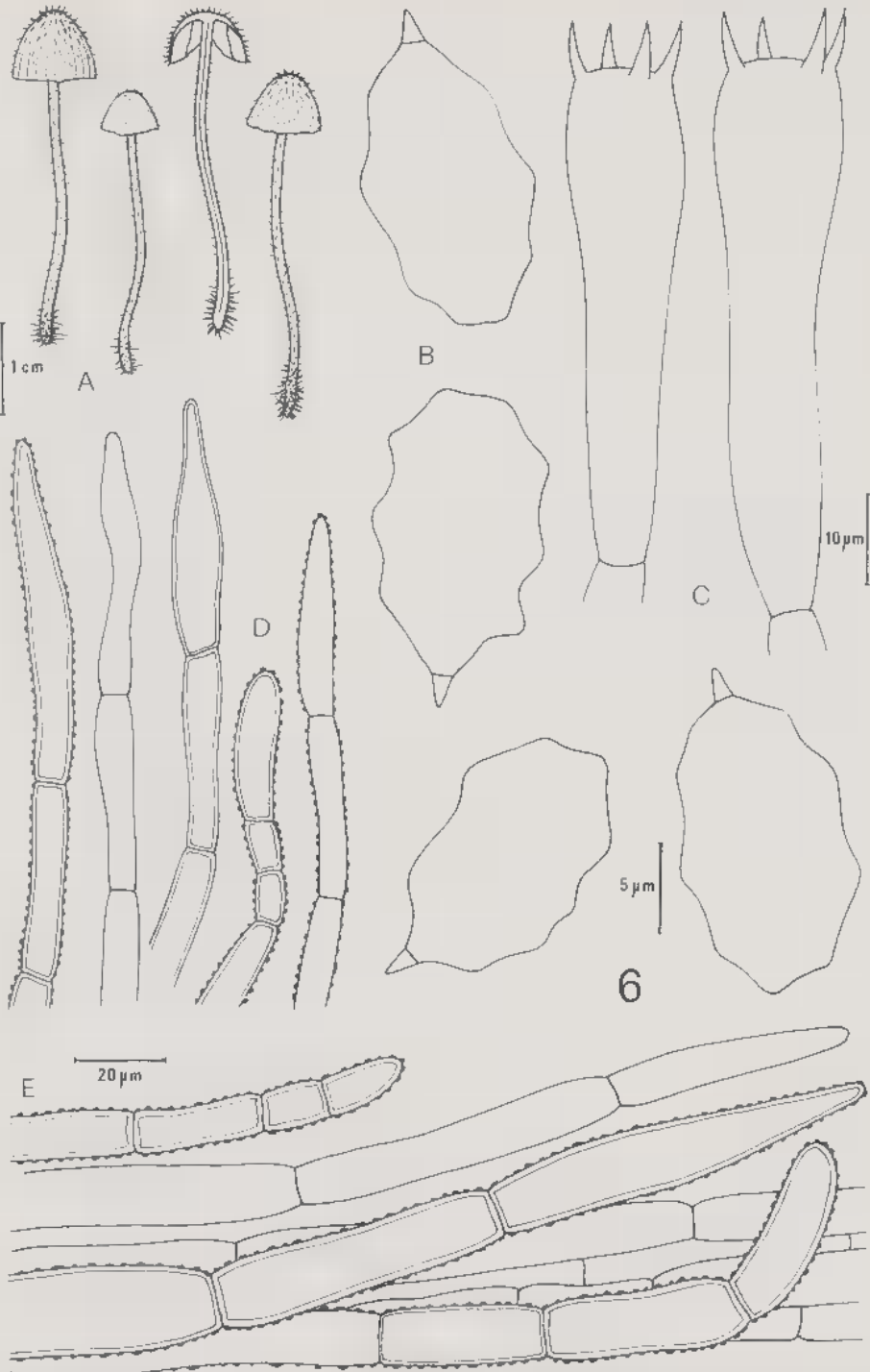


Fig. 6. — *Pouzaromyces erinaceus* Horak (type) : A. carpopores. B. spores. C. basidia. D. caulocystidia (compare also *P. sepiaceobasalis*). E. pileipellis.

Material : Argentine : prov. Tucuman, Sierra de S. Javier, Anta Muerta, 950 m, 1.III.1962, leg. HORAK (ZT 62/189; holotype).

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Type material and additional collections are kept in ZT.